

ABSTRACT

A method and test for field sample arsenic speciation in aqueous solutions, in particular, arsenic speciation in drinking water, is described. In particular, the method and test uses in series three columns wherein the first column removes interfering cations from water, the second column removes dimethylarsenate (DMA) from the water, and the third column removes As(V) (collectively $\text{H}_3\text{AsO}_4/\text{H}_2\text{AsO}_4^-/\text{HAsO}_4^{2-}/\text{AsO}_4^{3-}$) and monomethylarsinate (MMA) while As(III) (collectively $\text{H}_3\text{AsO}_3/\text{H}_2\text{AsO}_3^-/\text{HAsO}_3^{2-}/\text{AsO}_3^{3-}$) remains in the water effluent. The bound arsenic species are separately eluted from the columns in a laboratory and then each of the eluants and the effluent are tested for the arsenic species, preferably using graphite furnace atomic absorption spectroscopy.